

**Virginia Energy Plan  
Agency Energy Management Activity Report  
Fiscal Year 2010**

Agency Department of Environmental Quality, Agency 440

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## **Part I. Core Strategies**

### **Strategy 1.2.1**

DEQ's Environmental Management System, which includes the Environmental Policy Statement, EMS Manual, and EMS Implementation Plan, can be viewed at:  
<http://deqnet/programs/ems>

### **Strategy 1.2.5**

List of energy efficient purchases by DEQ for FY 2010

- ☛ During FY 2010, DEQ purchased \$143,873 of energy efficient products, recycled products, and services, a decrease of \$228,868. This decrease was due to agency wide budget cuts and austerity measures.

### **Strategy 1.3.1**

Employee Transportation Coordinator - Jay M. Gutshall

List Transportation Demand Activities undertaken over the past year.

- X DEQ's miles traveled in fiscal year 2010 in state vehicles decreased by 117,065 miles from fiscal year 2009. Miles traveled in FY 2009 were 2,191,327. Miles traveled in FY 2010 were 2,074,261.

### **Strategy 1.3.2**

DEQ participates in the GRTC and the Van Pooling program.

☛	GRTC Participants	50 employees—Subsidized 100% by DEQ
☛	Van Pooling Participants	15 employees—Subsidized up to \$115 per month per employee
☛	Virginia Rail Express	4 employees - Subsidizes up to \$115 per month per employee
☛	Valley Metro Transit employee	2 employees - subsidizes up to \$115 per month per employee

#### **Strategy 1.3.4**

DEQ continues to build on its strategy to avoid meeting related travel expenses through the use of technology. Audio and video conference meetings are conducted on a daily basis throughout the Agency. Moreover, in October 2009 DEQ invested in webinar technology to further avoid travel expenses and improve communications. During FY10, DEQ hosted 40 webinars attended by 580 people in regional locations throughout Virginia.

#### **Strategy 1.3.6**

DEQ allows for staggered work schedules, and 273 employees out of approximately 760 employees participate in the program. This is an increase of 26 employees from FY 2009. 392 employees telecommute, an increase of 150 employees from FY 2009

### **Part II. Other Agency Activities**

DEQ has energy management coordinators in all 7 regional offices, 2 satellite offices, and on all 13 floors of our central office. The coordinators constantly remind employees to turn off all office equipment and lights at the end of the work. They send out reminders to conserve water, recycle paper products, make two sided copies, and provide information with regards to energy conservation and recycled products available to the Commonwealth.

Electrical Usage for the DEQ regional offices (using FY 2006 as the baseline) grew in FY 2007 and FY 2008, but declined in FY 2009 and FY 2010. Overall regional office energy usage fell 12,151 kWh between FY 2007 and FY 2010. Central Office electrical usage for FY 2010 decreased 79,292 kWh from FY 2009. Using \$0.07 per kWh as an average and FY 2006 as the baseline, DEQ reduced its 4-year electrical costs by \$26,330 for the Regional Offices, and \$5,550 for one year in our Central Office.

## **Facilities – Environmental Initiatives**

### **Central Office – 629 East Main Street, Richmond**

- 1) Central Office has a long-term paper recycling contract with a local vendor to collect all of the agency's waste office paper. For FY 2010, over 16,871 pounds of paper was collected for recycling, this number included white paper, newspaper, card board, office pack, mixed paper, packaging material, and books. 95 pounds of plastic drink bottles were also collected by this vendor for recycling.
- 2) The Employees Association (EA) provides recycling for the aluminum beverage cans in the office. In FY 2009 the EA collected approximately 270 pounds of aluminum cans, and in FY 2010 it collected 294 pounds. The EA has also promoted the collection of cell phones, rechargeable batteries, and ink jet cartridges through vendor mail-back programs.
- 3) Batteries such as cell phone batteries and miscellaneous rechargeable batteries are collected at Central Office for recycling. Employees can bring their batteries from home and place in the bin.
- 4) DEQ collects CFL desk bulbs from our agency and employees may bring their CFL bulbs from home. The bulbs are shipped as Universal Waste to a vendor for recycling.
- 5) Central Office guidelines encourage double-side copying and printing, with most printers capable of duplexing.
- 6) DEQ has established energy conservation guidelines for all offices, with emphasis on computer and facility lighting systems.
- 7) DEQ continues to work with the landlord on energy conservation and environmental strategies for the building, specifically on heating and cooling systems management.
- 8) DEQ has instituted electronic faxing through the use of scanning and computer networks, eliminating the need for free-standing fax machines.
- 9) DEQ has 12 hybrid vehicles in our fleet, representing 12% of the overall fleet.
- 10) The use of Filenet was established in 2009 and UST, air, water, and waste records have been scanned or are being scanned. The next step is the installation of a web-based access for the public to view records in filenet.
- 11) Agency letterhead is provided electronically to avoid printing. Black and white is the default for printing of the letterhead. Electronic transmission of letters with electronic signature is suggested where possible.

## **Pollution Prevention Activities for FY 10**

- 1) The Office of Pollution Prevention promotes awareness of renewable energy and energy efficiency by participating in various statewide educational outreach efforts. Outreach efforts include on site energy audits to interested VA facilities and promoting pertinent energy projects to facilities participating in the Virginia Environmental Excellence Program (VEEP). DEQ is also a stakeholder in organizations like the Virginia Wind Energy Collaborative and Hampton Roads Clean Cities, promoting wind energy and bio-fuels respectively. The Office of Pollution Prevention (OPP) at DEQ maintains a comprehensive, internet based, educational resource addressing energy efficiency and renewable energy called the Virginia Information Source for Energy (VISE) [www.deq.state.va.us/p2/vise/homepage.html](http://www.deq.state.va.us/p2/vise/homepage.html). OPP also administrates the Virginia Environmental Excellence Program (VEEP). VEEP is a program that provides industry and municipalities the opportunity to be recognized for their environmental management systems and energy conservation efforts.
- 2) OPP provides guidance to state agencies working to meet the requirements of Executive Order 19 (2010), 'Conservation and Efficiency in the Operation of State Government'.
- 3) Environmental Outreach Activities July 1, 2009 – June 30, 2010 [Site visits, meetings, presentations, video and tele-conferencing, Webinars, and other outreach: (VEEP, Virginia Green, VISE, and P2)]

July	John Tyler Community College, Luck Stone, Pocahontas Department of Corrections (DOC), Virginia Tech, Albemarle Schools Bus Maintenance Facility, Albemarle High School, Department of Corrections Safety Committee, and the Virginia Green Advisory Committee meeting.
August	DOC Dillwyn, DOC Nottoway, Covanta Alexandria, DOC Chesterfield, Albemarle General Services, DOC Stafford, Region 3 RCRA teleconference, and the NACEPT SPES Subcommittee.
September	VEEP Workshop, DOC Haynesville, VEEP Managers Workshops (2), Prince William County Balls Road Yard Waste meeting, and Norfolk Greening event.
October	Williamsburg Small Business presentation, NACEPT SPES Subcommittee, VEEP Managers Workshop, Luck Stone (Powhatan), NASA Wallops Island, William Dougherty DDS, Virginia School Plant Manager Conference, VDOT Hazardous Material Managers, Prince William County Yard Waste Facility, DOD Eagle Award, and the Mid-

Atlantic B2Bay Green Forum.

November	Department of Defense Colloquium, Albemarle Schools, DOC Baskerville, Richmond WWTP, and the ABC Green Team meeting.
December	NACEPT SPES Subcommittee, DOC Bland, Virginia Tech and Blacksburg, Bristol SWM, DOC Red Onion, DOC Deerfield, Region 3 NPEP teleconference, and EMS Internal Auditing webinar.
January	New River SWMA, and an E4 program meeting with Charlottesville, UVA and Albemarle County.
February	Energy Efficiency Webinar, Fairfax Normal Cole WWTP, EPA Region 3 RCRA Subtitle C teleconference, College of William & Mary, NPEP teleconference, and the Defense Supply Center.
March	DuPont Front Royal, Fredericksburg, Prince William County DPW Fleet, NPEP Awards, Resource Conservation Challenge, and DOC James River.
April	Newport News City Farm, EIA Conference, VEEP Webinar, Virginia Green Advisory Committee meeting, NAFA/Clean Cities meeting, NPEP teleconference, Blacksburg VPI Sanitation Authority, DOC Buckingham, Region 3 P2 teleconference, Fort Eustis DOT E3 meeting, and the COVES Planning Committee.
May	DOC Sussex I & II, Fort Meyer, Fort Eustis, and the National Environmental Partnership Summit.
June	NASA Wallops Island, Masco Mt. Jackson, Smithfield North, Manassas Garage, James River Reserve Fleet (DOT), Newport News Parks Operations, Newport News Parks Maintenance, UVA Heating Plant, UVA Dining Facilities, and UVA Housing Department.

**Blue Ridge Regional Office – Roanoke (BRRO - R)**

- 1) BRRO-R continues to recycle white and mixed paper, plastic drink bottle rings, plastic bags, aluminum cans, glass, batteries (alkaline and rechargeable), cardboard, toners, and paperboard food containers. In 2009-2010, BRRO-R began to recycle Styrofoam periodically. The Roanoke regional office recycled 9,321 pounds of material, plus 3 cubic feet of plastic bags and 64 cubic feet of Styrofoam packaging material.
- 2) The staff reuses file folders, notebooks, cardboard shipping containers, envelopes and refillable pens to cut down on plastic consumption of new pen housing. BRRO-R uses

out-of-date printed letterhead for use in its fax machine by using the back side to print out faxes and emails.

- 3) The staff carpools with other regions to travel to meetings to reduce fuel consumption. Divisions are consolidating field inspections and doing multiple inspections per trip to reduce fuel consumption. BRRO-R staff carpool when traveling to BRRO-Lynchburg for training, meetings and conferences.
- 4) Several staff members are commuting to work by bicycle when possible.
- 5) WCRO minimizes water use by using water sparingly instead of letting water run continuously when washing hands and dishes.
- 6) The landlord has been replacing T12 lights with T8 as needed.
- 7) BRRO-R has been sending out correspondence and copies electronically. As more of BRRO-R's files are being scanned, documents requested via FOIA are being sent electronically instead of being copied and mailed. Assignments and responses to FOIAs are being made via email to reduce the number of copies to the different media areas. Consultants, permittees, etc., have been submitting documents to us via electronic formats. Staff is encouraged to review documents electronically and print documents double-sided to reduce paper consumption and toner usage.

### **Blue Ridge Regional Office – Lynchburg (BRRO – L)**

- 1) Recycling:  
Copy/Mixed Paper: (38) 18 gal plastic tubs; (5) 10 gal plastic tubs  
Shredded Paper: (9) 30 gal bags  
Newspaper: (1) 18 gal plastic tubs  
Cans: Aluminum = (11) 30 gal bags Steel = (1) 15 gal bags  
Plastic: (18) 15 gal bags  
Plastic Shopping Bags: bag stuffed with used bags – 9 bags – recycled at grocery store across the street from BRRO, Lynchburg  
Toner cartridges: Toner cartridges from the HP 3800 color printers are shipped back for recycling. A shipping label for UPS shipment is enclosed with each new toner cartridge.
- 2) Recycling of all materials is handled by volunteers at BRRO-Lynchburg. There are recycling containers across the street from BRRO-Lynchburg that accept most materials. Items not accepted by this facility are transported to another recycling facility.
- 3) Green Purchasing and Paper Use: Copy paper consumption has decreased due to the use of scanning to send documents and faxes electronically rather than making paper copies. Copy paper consumption has also decreased because most FOIA responses are sent via email or by copying the documents onto a CD and mailing them; use of paper copies is

steadily decreasing resulting in less paper usage, less energy for using copiers and fewer labor hours. FOIA paper copies July 1, 2007-June 30, 2008 = 16,110; July 1, 2008-June 30, 2009 = 8,693; July 1, 2009-June 30, 2010 = 4,321. For budget year 2009, 60 boxes of copy paper were purchased. For budget year 2010, only 24 boxes of paper were purchased.

- 4) For the period of July 1, 2009 through June 30, 2010, BRRO-Lynchburg has purchased items made from recycled materials including: legal pads, post it notes, copy paper and file folders.
- 5) Staff are encouraged to print documents on both sides of the paper whenever practical. Reuse of paper that has already been printed on is not recommended in our leased copier/printers.
- 6) File folders and 3 ring binders are reused. Cardboard shipping boxes are reused.
- 7) Outdated letterhead paper is used to make recycled paper scratch pads for the office.
- 8) Energy Use of Equipment & Lighting, Heating and Cooling: All copiers and printers have energy savers and "go to sleep" when not in use for an extended period of time.
- 9) PCs placed in "stand by" mode each evening; lights turned off when not needed. Some staff – 10% - use the natural light from windows in their offices rather than using fluorescent lighting. Other staff are using lamps and have replaced incandescent bulbs with the CFL bulbs that were provided by Central Office.
- 10) Staff who are in offices with windows and blinds open the blinds during periods of sunlight so that they can benefit from the natural heating. Blinds are closed during periods of cold weather to keep heat in, and, kept closed during extreme heat as well to avoid over use of air conditioning.
- 11) Transportation/Vehicle Use: The office practices include only using larger vehicles when more than two employees are traveling to the same event. Inspectors and permit writers from different media sometimes ride together to inspections or to investigate complaints. We also carpool with BRRO – Roanoke whenever possible when traveling to training, meetings and conferences.
- 12) The office has 3 state vehicles that will accept E85 fuel. Periodic tire pressure checks on state vehicles are required to increase fuel efficiency.
- 13) BRRO-L has one full time telecommuter as well as 4 part-time telecommuters.

### **Southwest Regional Office - Abingdon**

- 1) Recycle cardboard, paper, newspaper, plastic, aluminum, metal, and printer cartridges.  
Estimated Weights:
  - Cardboard – 50 lbs
  - Paper – 1 ton (2,000 lbs)
  - Aluminum – 110 lbs
  - Printer Cartridges – 60 cartridges
- 2) SWRO prints duplexed copies when applicable and sets a limit for number of copies printed per month for each copier.
- 3) SWRO uses Alto Florescent Bulbs which are less toxic and more energy efficient.
- 4) File folders, notebooks, inter-agency envelopes, cardboard shipping containers are reused.
- 5) Landlord is replacing exit light with LED lighting.
- 6) Pen refills are purchased to cut down on plastic consumption of new pen housing whenever possible.

### **Northern Virginia Regional Office – Woodbridge**

- 1) Electronic response to FOIA requests: If the information is available electronically, NRO emails files.
- 2) NRO continues to collect and recycle paper (6870 lbs), plastic, glass, cans (730 lbs).
- 3) NRO prints doubled sided and use recycled paper for notes.
- 4) NRO reuses file folders, notebooks, and cardboard shipping containers.
- 5) NRO also recycle binders received from submittals, and make them available free, to consultants when they visit the office and return them to consultants who routinely provide submittals in binders.
- 6) Further to our earlier disabling of approximately one out of three light fixtures NRO has worked with the landlord to progressively replace light with more energy efficient, low mercury “green tip” fixtures.

- 7) Temperature/thermostat control – balancing HVAC system throughout building to be more efficient. NRO has implemented an office shut down procedure where thermostats are manually put to “unoccupied” settings (82F in the summer) and appliances that can be are shut down.
- 8) NRO encourages individuals to use fluorescent versus incandescent bulbs in the office lamps.
- 9) Figures from 2008 and 2009 corroborate reduced electricity consumption of around 25% compared to 2007 and earlier.
- 10) NRO encourages employees to carpool to and from work and to other offices and meeting. Of commuting staff, three regularly car pool together, three regularly take VRE, and two regularly bike to work.
- 11) Office has been equipped with low flow toilets
- 12) EMS Staff continue to develop a GHG Inventory to identify and calculate the office’s (including FSO) greenhouse gas emissions from energy use, vehicle use, commuting, and waste consumption. After calculating total emissions, the EMS group is working on identifying possible mitigation options to reduce emissions in a cost effective manner that includes programmable thermostats, more energy efficient lighting, change in vehicle use, carpooling, etc.
- 13) NRO implemented a rain garden around one of the main storm drainage outlets working closely with the landowner and with Prince William County. Redbuds have been planted along the south east facing windows to eventually reduce summer heat gain. Annuals have been replaced with perennials in the more “formal” landscaped areas around the entrance area. Landscape crews have been instructed not to do maintenance during code orange days and to restrict visits generally during the summer.
- 14) NRO continues to carry out monthly “vehicle maintenance” events to ensure DEQ vehicles have tires properly inflated and vehicle fluids are within specifications.
- 15) NRO continues to identify replacements of thermostats, upgrading of fluorescent lights, and replacement of exit lights with LEDs as the most cost effective way to continue to achieve energy savings over the coming years. NRO has worked with the landlord to implement progressive replacement of these fixtures.
- 16) NRO has been successfully running an internal vending program, with each program taking responsibility for one quarter each. This has allowed the vending machines to be removed from the office, resulting in significant energy savings and generating a tangible income for the office “PEP” program.

**Piedmont Regional Office (including Air Monitoring Group) – Glen Allen**

- 1) PRO uses outdated letterhead in every copier to print documents not being sent to the public and made recycled paper scratch pads for the office.
- 2) PRO (and Air Monitoring) recycles corrugated cardboard, white office paper, newspaper, and mixed paper through International Paper (11,939 lbs. total in FY10). PRO employees collect #1 and #2 plastics; non-aluminum metal cans; glass, and miscellaneous paper from the office and add it to their home curbside pick up or drop off at local recycling facilities (approximately 564 gallons [108 lbs.]). PRO recycles aluminum cans (170 lbs. 10/23/09).
- 3) Toner cartridges and lead acid batteries are recycled through the distributors.
- 4) Several PRO employees collect waste coffee grounds, coffee filters and biodegradable food waste from the office and compost these waste products at their homes for use as a soil additive, diverting this material from sanitary landfill disposal.
- 5) Use of the Fax2Mail system which is internet based vs. paper based.
- 6) Use of digital photography in the office. Staff store photos on CD's and print pictures only when needed.
- 7) Documents requested via FOIA are being sent electronically instead of being copied and mailed. Assignments and responses to FOIAs are being made via email to reduce the number of copies to the different media areas. Consultants, permittees, etc., have been submitting documents to us via electronic formats. Staff are encouraged to review documents electronically and print documents double-sided to reduce paper consumption and toner usage.
- 9) We have adopted a highway for trash pick up in Henrico County near Cox and Broad Street.
- 10) Purchased double-sided generic public notice signs to place near public meetings. Signs can be reused for each new meeting.
- 11) Silverware, and ceramic coffee cups, plates and bowls are available for employees and guests.

- 12) PRO continues the multimedia inspection program, in which about 30 inspections (normally taking two inspectors) were done by one inspector.
- 13) Four of the eight faucets in the bathrooms are automatic faucets. PRO minimizes water use by using water sparingly instead of letting water run continuously when washing hands and dishes.
- 14) PRO's vehicle policy directs the staff to reserve vehicles with better gas mileage first.
- 15) PRO practices appropriate vehicle use by only using 4 wheel drive vehicles when necessary, and, by using larger vehicles when more than two employees are traveling to the same event.
- 16) Light fixtures with multiple bulbs have had three bulbs in six removed to save energy.

### **Tidewater Regional Office – Virginia Beach**

- 1) Recycling: Beginning in March 2009 our landlord started a recycling program at our office as well as all of the offices they manage. However, the TRO volunteer recycling committee still collects the aluminum cans and batteries. For FY 2010 TRO recycled a total of 1.8 tons of materials, including paper (colored, white, magazines, phone books, newspaper, shredded paper, mail), cardboard, glass, plastic, and tin. In addition 225 lbs of aluminum and 50 lbs of batteries were recycled as well.
- 2) Telecommuting: There has been a significant increase in telecommuting. Seventeen staff members now participate.
- 3) Waste Minimization:
  - a) We continue to encourage staff to copy and print double-sided. Printers have been set to print double-sided by default. Use of eLetterhead has become standard. Many staff use recycled paper to make notepads or print drafts.
  - b) The office as a whole is relying more heavily on digital media and using the networked scanner/copier/printers to scan items and send them via email rather than paper copy.
  - c) Where possible FOIA requests are being responded to electronically. This eliminates any paper copying and reduces driving on the part of the person making the request.
  - d) The Fax2Mail system has eliminated our fax machines.
  - e) As a result of these measures, TRO's paper use has dropped 33% from 1200 reams of paper in FY 2009 to 800 reams in FY 2010.
  - f) We reuse file folder and binders and interagency envelopes.
  - g) Toner cartridges are recycled

- 4) Water Conservation: TRO continues to contact the landlord immediately when leaks, drips, or other issues arise.
- 5) Energy Conservation:
  - a) TRO is following the current VITA policy has changed to putting computers on Standby at night rather than shutting down
  - b) We have set our programmable thermostats to conserve the use of the HVAC system at night and on the weekends and to balance efficiency and comfort during work hours. In addition, as older thermostat models fail, newer programmable models are being installed.
  - c) TRO continues to track electrical consumption. Electrical consumption for FY 2010 was essentially unchanged from the previous year.
  - d) TRO encourages the use of CFL bulbs. We also encourage staff to turn off light in rooms not in use and to turn off equipment not in use.
  - e) TRO has one hybrid and three flex fuel vehicles in the fleet. Staff has been encouraged to consider mileage performance when selecting a vehicle for long distance travel.
  - f) Copier/printers set to 'sleep mode' when not in use
  - g) TRO has removal of one ballast per overhead fixture in hallway areas, in addition several individuals have either removed one or more ballasts from the overhead fixtures in their offices, or rely on natural lighting. Approximately 15% of the light fixtures in the office are no longer in regular use.
  - h) Carpooling is encouraged for longer trip whenever possible.
  - i) TRO staff take advantage of webinar training opportunities.
- 6) Other: TRO had new carpet installed in FY10 and determined through the installer and manufacturer of the carpet that the new carpet and adhesive used to install it were both "CRI Green Label Plus Certified". This means it has been tested to assure it is one of the lowest emitting products on the market.

### **Valley Regional Office – Harrisonburg**

- 1) VRO recycles white paper, file stock, catalogs/magazines, newspaper, cardboard, glass, #1 plastic, #2 plastic, steel cans, and aluminum. It is estimated that just 3,344 pounds of paper material, and nearly 200 pounds of the plastics aluminum were recycled in the first half of FY09.
- 2) VRO maximized the use of 2-sided copying/printing and used the backs of used paper for draft reports.
- 3) VRO has fully transitioned to scanning/e-mailing and electronic faxing which reduces the use of paper.

- 4) Two employees regularly ride their bicycles to work when weather permits, and several others do this on occasion (primarily during the summer months).
- 5) Food scraps are collected in the break room for composting.
- 6) VRO uses energy saving low-mercury fluorescent tubes. Several of the building's light fixtures are left off throughout the day or have had half of their bulbs removed to reduce unnecessary energy consumption.
- 7) Copy machines are energy star certified and are set to go into a sleeping power save mode when not used frequently.
- 8) VRO has adopted a section of highway near its office and performs semiannual roadside trash collection. Similarly this office has adopted a section of the North River and performs semiannual river cleanups.
- 9) VRO utilizes a rain garden to capture, filter, and allow for the r-infiltration of storm water runoff from our paved parking lot. New parking area on south side of building is gravel; permeable surface.

Respectfully prepared/submitted,  
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